

The opinion is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EDWARD J. GIBLIN, JAIMEE TERESE SIMON
and JOHN M. PAULOVICH

Appeal 2007-1208
Application 10/748,946¹
Technology Center 1700

Decided: 20 September 2007

Before FRED E. McKELVEY, *Senior Administrative Patent Judge*,
and RICHARD E. SCHAFER and MICHAEL P. TIERNEY, *Administrative
Patent Judges*.

TIERNEY, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a 35 U.S.C. § 134 appeal in the above-referenced case² of claims 11, 14-16, 20, 21, 23, 27 and 28. Claims 1-10, 12, 13, 17, 18, 22 and 24-26 have been cancelled. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b).

¹ This application published as U.S. Published Application 2005/152312 A1 on June 30, 2005.

² The real party in interest is Unilever Home & Personal Care USA, Division of Conopco Inc.. (Br. at 3).

STATEMENT OF THE CASE

Applicants' invention relates to transparent or translucent bottles comprising a blend of metallocene polyethylene and a homopolymer of high density polyethylene. (Specification, p. 1, ll. 4-6). According to Applicants, a popular form of laundry detergent is a heavy duty liquid detergent sold in bottles. (*Id.* at p. 1, ll. 8-10). Applicants state that detergent bottles having greater clarity can be aesthetically appealing to consumers as the consumer can see the consistency of the product. (*Id.* at p. 1, ll. 21-26). Applicants also state that a preferred embodiment of their invention relates to a multilayer bottle where a middle layer employs at least 25% recycled resin. (*Id.* at p. 7, ll. 5-9).

There is one independent claim on appeal, claim 11. Claim 11 is directed to a translucent bottle having three layers wherein the middle layer contains at least 25% by weight post-consumer recycled resin. Specifically, claim 11 reads as follows [bracketed material and indentation added]:

A transparent or translucent bottle having a wall comprising [1] an outer layer, [2] a middle layer and [3] an inner layer, wherein

the outer layer comprises a blend from 25% to 75% by weight of the outer layer of a metallocene polyethylene polymer with density from 0.91 to 0.95 g/cm³ and of a homopolymer polyethylene with density greater than 0.957 g/cm³, and

the middle layer comprises at least 25% by weight of the middle layer of post-consumer recycled resin,

the outer and inner layers each comprising from 5 to 20% of total thickness of the wall of the bottle, and

wherein at least 10% transmittance of light in the visible spectrum is seen through the wall. (Brackets "[]" added for emphasis).

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The Examiner made two (2) prior art rejections as follows:

i) Claims 11, 20-21, 23 and 27-28 are rejected under 35 U.S.C. § 102(b) as anticipated by Heydarpour, U.S. Pat. 5,843,540 (“Heydarpour”)

ii. Claims 14-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Heydarpour in view of D’Alessandro, U.S. Pat. 4,068,663 (“D’Alessandro”)

The application on appeal was filed on December 29, 2003. Heydarpour issued on December 1, 1998 and D’Alessandro issued on January 17, 1978. Heydarpour and D’Alessandro are prior art under 35 U.S.C. § 102(b).

Applicants generally contend that a key aspect of its invention is the formation of a bottle having sufficient light transmittance yet employing at least 25% post consumer recycled resin (“PCR resin”) in the middle layer of the bottle. Applicants also contend that Heydarpour fails to describe a bottle and that neither Heydarpour nor D’Alessandro describe a blend of metallocene polyethylene and polypropylene as required by claims 14-16.

The Examiner found that Heydarpour’s flexible container is an alternative to a plastic bottle and thus Heydarpour describes a bottle. (Answer, p. 4). The Examiner further found that Heydarpour’s container is a multilayer structure formed from the same polymers as that claimed in Applicants’ claims 11, 20-21, 23 and 27-28. (Answer, pages 3, 5-6 and 8). Additionally, the Examiner found that one of ordinary skill in the art would have recognized the advantages of providing the polypropylene of D’Alessandro in the outer layer of the polymeric container of Heydarpour. (Answer, p. 5). In particular, the Examiner found that D’Alessandro teaches

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that polypropylene is a known polymer for use in bottles that are designed to contain water. (*Id.*).

We reverse the Examiner's rejection of claims 11, 20-21, 23 and 27 under 35 U.S.C. § 102(b) as anticipated by Heydarpour. We affirm the Examiner's rejection of claims 14-16 under 35 U.S.C. § 103(a) as being unpatentable over Heydarpour in view of D'Alessandro, but designate our affirmance as a new ground of rejection.

Additionally, we enter a new grounds of rejection as to claims 11, 20-21, 23 and 27 as they are unpatentable to Applicants under 35 U.S.C. § 103(a) over the combined teachings of Heydarpour and D'Alessandro. We likewise enter a new grounds of rejection as to claims 14-16 as they are unpatentable to Applicants under 35 U.S.C. § 103(a) over the combined teachings of Heydarpour and D'Alessandro and further in view of Su et al., U.S. Patent 4,579,757 ("Su") and Kirk-Othmer Encyclopedia of Chemical Technology, Fourth Edition, (1996) ("Kirk-Othmer").

ISSUE

The issue is whether Applicants have shown that the Examiner erred in rejecting the claims. Specifically, the issues are:

Have Applicants demonstrated that the Examiner was incorrect in finding that Heydarpour describes a bottle?

Have Applicants demonstrated that the Examiner erred in requiring Applicant to show that a resin formed by a recycling process is distinct from a virgin resin such that bottles formed therefrom are patentably distinct?

Have Applicants demonstrated that one skilled in the art lacked a reason to employ a known bottle forming material,

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polypropylene, in combination with metallocene polyethylene, which is itself a known bottle forming material.

FINDINGS OF FACT

A. Applicants' '946 Specification and Claims

- 1) Applicants' claims are directed to a transparent or translucent bottle having [1] an outer layer, [2] a middle layer and [3] an inner layer, wherein [a] the middle layer contains at least 25% of a post-consumer recycled resin and [b] wherein the bottle has at least a 10% transmittance of light in the visible spectrum. (Br., Claims Appendix, Independent Claim 1).
- 2) Applicants' specification states that there is a need for laundry detergent bottles having greater clarity. ('964 Specification, p. 1, ll. 14-26).
- 3) Applicants' specification states that its described bottles may be used for a variety of purposes, including chemicals and foods. (*Id.* at p. 6, ll. 27-29).
- 4) Applicants' specification describes its recycled resins as preferably high density polyethylene ("HDPE") from used milk or water bottles and possibly used detergent bottles of about the same color. (*Id.* at p. 13, ll. 8-9).
- 5) Example 2 of Applicants' specification contains 25% recycled resin identified as "Grade 1 PCR homopolymer by KR Plastics." (*Id.* at p. 17, ll. 1-5).

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6) Applicants' specification does not describe how the chemistry of its recycled resins differs from that of virgin resins.

B. The Prior Art

1. Heydarpour

7) Heydarpour describes what is referred to as a flexible container or pouch. (Heydarpour, Abstract and Claim 1).

8) Heydarpour states that consumers have a "time-fortified" preference for traditional packaging, such as plastic bottles. (*Id.* at col. 1, ll. 19-28).

9) Heydarpour states that standability is an important feature of its flexible containers, "which are alternative to traditional plastic bottles." (*Id.* at col. 12, ll. 1-3).

10) Heydarpour states that its container is formed with at least an inner layer, a middle layer and an outer layer. (*Id.* at Abstract).

11) Heydarpour states that its flexible container is made with a polymeric film structure that greatly enhances the durability of the container. (*Id.* at col. 2, ll. 41-44).

12) Heydarpour teaches that its container may be used to contain food products, such as milk. (*Id.* at col. 3, ll. 36-38).

13) Heydarpour teaches that its containers are filled prior to sealing. (*Id.* at col. 3, ll. 59-63).

14) Heydarpour is silent as to whether its polymeric resins include post-consumer recycled resin. However, nothing in Heydarpour excludes the use of post-consumer recycled resin.

2. D' Alessandro

15) D' Alessandro describes a fluid dispensing squeeze bottle. (D' Alessandro, Abstract).

16) D' Alessandro states that its bottles are particularly adapted for use as a feminine hygiene product. (*Id.* at col. 1, ll. 7-10).

17) D' Alessandro teaches that it is important to maintain clean or sterile conditions in the fluid being dispensed from its bottles. (*Id.* at col. 1, ll. 33-35).

18) D' Alessandro teaches that an object of its invention is to provide a bottle that can be filled in clean and sterile conditions as the bottle is assembled. (*Id.* at col. 1, ll. 45-51).

19) D' Alessandro teaches that its flexible squeeze bottle may be formed using known bottle materials such as low and high density polyethylene and polypropylene. (*Id.* at col. 3, ll. 4-9).

C. Final Office Action, Appeal Brief and Answer

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20) The Examiner found that the polymers forming Heydarpour's flexible container fall within the scope of Applicants' claims 11, 20-21, 23 and 27. (Answer, pages 3-4).

21) The Examiner found that Heydarpour describes polymeric layers having Applicants' claimed inner, middle and outer layer thicknesses. (*Id.*).

22) With the exception of the presence of PCR resin, Applicants did not dispute that Heydarpour describes layers of polymers falling within the scope of claims 11, 20-21, 23 and 27. (See, e.g., Br. pages 5-7, no comment regarding polymeric composition of bottle other than discussion of PCR resin).

23) Applicants did not dispute that Heydarpour describes layers of polymers having a thickness falling within Applicant's claimed thickness ranges. (*Id.*).

24) The Examiner found that a bottle formed from Heydarpour's polymeric structure would inherently possess Applicants' claimed light transmittance properties. (Answer, p. 4).

25) With the exception of the presence of PCR resin, Applicants did not dispute that Heydarpour describes a polymeric structure having the claimed light transmittance properties. (See, e.g., Br. pages 5-7, no comment regarding light transmittance of bottle other than discussion of PCR resin light transmittance).

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26) The Examiner found that one of ordinary skill in the art would have recognized the advantages of using polypropylene in the outer layer of Heydarpour and Applicants did not file a Reply Brief disputing this finding. (Answer, p. 5, no Reply Brief filed).

27) Applicants state that D'Alessandro does not explicitly recite the use of a blend of polypropylene and polyethylene or the use of 0.1 to 50% by weight polypropylene in the outer layer. (Br. at 10-11).

28) The Examiner found that Applicants' PCR resin and those used by Heydarpour were chemically the same. Specifically, the Examiner found:

Furthermore, because the structure disclosed by Heydarpour et al is the same chemically as the claimed structure, it is unclear what differences would exist in the final product in Applicant's invention by using components which are post - consumer recycled instead of virgin, even if the components of Heydarpour et al are virgin.

(Answer, p. 6).

29) The Examiner found that Applicants did not present evidence to support the contention that one skilled in the art would not have expected the claimed light transmittance for a bottle having a middle layer containing at least 25% PCR resin. (Final Office Action, p. 2-3).

30) Applicants' Brief states that PCR resin does not have any specific properties associated with it and makes the following request:

Appellant requests that Official Notice be taken that recycling degrades properties relative to virgin materials, and that this includes light properties.

(Br. at 10).

D. Additional References

1. Kirk-Othmer (1996)

31) One of ordinary skill in the chemical arts is familiar with the Kirk-Othmer Encyclopedia of Chemical Technology.

32) Kirk-Othmer describes the advantages of forming polymer blends with polypropylene as follows:

PP [Polypropylene] is a versatile polymer, use of which continues to grow rapidly because of its excellent performance characteristics and improvements in its production economics, eg, through new high efficiency catalysts for gas-phase processes. New PP-blend formulations exhibit improved toughness, particularly at low temperatures. PP has been blended mechanically with various elastomers from a time early in its commercialization to reduce low temperature brittleness.

(Kirk-Othmer, Vol. 19, p. 865).

2. Su, U.S. Patent 4,579,757

33) Su describes a plastic container for the packaging of comestibles. (Su, Abstract).

34) Su's "Background of the Invention" states that:

A typical multilayer laminate used in making plastic containers comprises an intermediate oxygen barrier layer of ethylene-vinyl alcohol copolymers; *an outer polyolefin layer, preferably polyethylene, polypropylene or a blend thereof*, or a copolymer of ethylene with propylene; and an inner polyolefin layer similar to the outer layer. For this reason, this layer will

hereinafter be sometimes referred to as the "contact layer", or when forming the inner wall of a container, as the "contact wall".

(*Id.* at col. 1, ll. 49-58, emphasis added).

35) Su provides examples of single-layer containers employing a blend of polyethylene and polypropylene having a weight ratio of 50:50 and teaches that a 3:2 ratio, i.e., 60% polyethylene and 40% polypropylene is likewise suitable. (*Id.* at col. 3, ll. 43-60 and col. 7, ll. 31-34).

PRINCIPLES OF LAW

Anticipation under 35 U.S.C. § 102 is a question of fact. *Brown v. 3M*, 265 F.3d 1349, 1351, 60 USPQ2d 1375, 1376 (Fed. Cir. 2001). A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. *Verdegaal Bros. Inc. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

An invention is not patentable under 35 U.S.C. § 103 if it is obvious. *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1745-46, 82 USPQ2d 1385, 1400 (2007). The facts underlying an obviousness inquiry include:

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.

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Graham v. John Deere Co., 383 U.S. 1, 17-18 (1966). In addressing the findings of fact, “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR* at 1739, 82 USQP2d at 1395. As explained in *KSR*:

If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Sakraida* and *Anderson's-Black Rock* are illustrative — a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.

KSR at 1740, 82 USPQ2d at 1396. As recognized in *KSR*, “[a] person of ordinary skill is also a person of ordinary creativity, not an automaton.”

KSR at 1742, 82 USPQ2d at 1397.

On appeal, Applicants bear the burden of showing that the Examiner has not established a legally sufficient basis for combining the teachings of the prior art. Applicants may sustain its burden by showing that where the Examiner relies on a combination of disclosures, the Examiner failed to provide sufficient evidence to show that one having ordinary skill in the art would have done what Applicants did. *United States v. Adams*, 383 U.S. 39 (1966).

Additionally, a product that is defined at least in part in terms of the method or process by which it is made represents a product-by-process claim. *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 159 n., 9 USPQ2d 1847, 1855, n. (1989). In construing a product-by-process claim, the Federal Circuit has held that “[i]f the product in a product-by-process

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claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985).

ANALYSIS

There are two grounds of rejection on appeal, both of which are based upon prior art. The Examiner's rejections and Applicants' response thereto are discussed below.

i) The Rejection of Claims 11, 20-21, 23 and 27-28 under 35 U.S.C. § 102(b) as anticipated by Heydarpour

Independent claim 11 requires a bottle having a transparent or translucent bottle having a wall formed with an outer layer, a middle layer and an inner layer with the middle layer containing at least 25 % by weight of PCR resin. Claims 20 and 21 depend from claim 1 with claim 20 requiring that the bottle have at least 25% light transmittance and claim 21 requiring the presence of virgin high density polyethylene in the middle layer. Claims 23, 27 and 28 also depend from claim 1 and further identify the required thickness of the inner, middle and outer layers. Applicants have not argued the separate patentability of any subgroups of the claims as provided by rule so we select claim 11 as representative.³

Applicants do not dispute that Heydarpour describes a container having inner, middle and outer layers having Applicants' claimed thickness. Additionally, except for the use of a resin formed from a post-consumer

³ 37 C.F.R. § 41.37(c)(1)(vii).

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recycling process, Applicants do not dispute that Heydarpour describes a container formed with the polymers recited in claim 11.

Applicants contend that Heydarpour does not describe a bottle. (Br. at 6). The Examiner found that Heydarpour describes its container as an alternative to a traditional plastic bottle and therefore Heydarpour's container is interchangeable with a bottle. (Answer at 4).

To anticipate a reference must expressly or inherently describe the claimed subject matter. Heydarpour expressly describes its flexible container as an alternative, i.e., different, than a traditional plastic bottle. As Heydarpour does not expressly or inherently teach Applicants' claimed bottle, we reverse the Examiner rejection of claims 11, 20-21, 23 and 27-28 as being anticipated by Heydarpour.

Heydarpour states that consumers have a "time-fortified" preference for traditional packaging, such as bottles. Applicants did not dispute that one skilled in the art could readily manufacture a bottle using the multilayer polymeric structure of Heydarpour. Accordingly, provided below is a new grounds of rejection of claims 11, 20-21, 23 and 27-28 under 35 U.S.C. § 103(a) as being unpatentable over Heydarpour, alone or in combination with D'Alessandro

ii. New Grounds of Rejection of Claims 11, 20-21, 23 and 27-28 under 35 U.S.C. § 103(a) as being unpatentable over Heydarpour, alone or in combination with D'Alessandro

Heydarpour describes a container formed with an inner layer, middle layer and an outer layer. The only claim limitations in dispute are whether Heydarpour describes a bottle and whether Heydarpour's middle layer

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contains at least 25% PCR resin such that the bottle has at least 10% light transmittance.

The Examiner found that Heydarpour's container was interchangeable with a bottle. Applicants did not dispute that the prior art suggests forming a bottle. (See Br. pages 7-11, Response to the Examiner's obvious rejection over Heydarpour and D'Alessandro). Applicants likewise did not dispute that there was a reasonable expectation of success of formulating a bottle using the polymeric structure of Heydarpour. (*Id.*).

Heydarpour states that consumers possess "time-fortified" preferences for traditional packaging. (Heydarpour, col. 1, ll. 19-23). Heydarpour identifies plastic bottles as a traditional form of packaging for which Heydarpour's flexible container is an alternative. (*Id.* at col. 12, ll. 1-3). Heydarpour also describes its multilayer polymeric structure as greatly enhancing the durability of the structure formed. (*Id.* at col. 2, ll. 41-44). One of ordinary skill in the art would have understood that there is a market based need for traditional plastic bottles and that Heydarpour's polymeric structure would enhance the bottles durability. Accordingly, while Heydarpour does not describe a bottle, Heydarpour provides sufficient reason for one skilled in the art to manufacture a bottle using Heydarpour's polymeric structure.

Additionally, D'Alessandro teaches that there is a need for a flexible bottle in the feminine hygiene market. (D'Alessandro, col. 1, ll. 7-10). D'Alessandro teaches that it is important to fill such bottles in a clean and sterile environment. (*Id.* at col. 1, ll. 45-51). D'Alessandro also teaches that leakage is a problem to be avoided. (*Id.* at col. 1, ll. 25-32). Similarly, Heydarpour teaches that its polymeric structure provides a durable and flexible structure. Heydarpour states that its containers are designed to

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contain low-fat milk, a product that requires a clean and sterile environment. (Heydarpour, col. 3, ll. 36-38). One of ordinary skill in the art would have adapted the polymeric structure of Heydarpour to manufacture a durable but flexible bottle to meet the needs of the feminine hygiene market. We find that Heydarpour, alone or in combination with D'Alessandro, provides sufficient reason to manufacture a bottle using Heydarpour's polymeric structure. Additionally, lacking evidence or argument to the contrary, we agree with the Examiner's implicit finding that one of ordinary skill in the art possessed at least a reasonable expectation of success in forming a bottle using Heydarpour's polymeric structure.

Applicants contend that the prior art fails to teach or suggest the use of post consumer recycled ("PCR") resin in the middle layer of a transparent or translucent bottle. (Br. at 7-11). The Examiner found that Heydarpour's polymers and Applicants' polymers are chemically the same. (Answer, p. 5). Further, the Examiner questioned what differences would exist in the final product if one were to employ PCR resins as opposed to virgin resins. (*Id.*). In response, Applicants state that PCR resin does not have any specific properties associated with it and makes the following request:

Appellant requests that Official Notice be taken that recycling degrades properties relative to virgin materials, and that this includes light properties.

(Br. at 10).

Applicants' Brief states that PCR resins are known to impart strength. (Br. at 8). Further, Applicants' specification indicates that there are different grades of PCR resin. (Specification, Example 2, p. 17, ll. 1-5, "Grade 1 PCR homopolymer by KR Plastics."). Based upon the record presented, we decline Applicants' request for Official Notice that PCR resin necessarily

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has degraded properties relative to virgin resins in general. With respect to taking official notice of a fact, see generally (1) *In re Knapp-Monarch*, 296 F.2d 230 (1961); (2) *In re Eynde*, 480 F.2d 1364, 1370 (CCPA 1973) (facts constituting the state of the art are normally subject to the possibility of rational disagreement among reasonable people and are not amenable to the taking of official notice)(judicial notice); and (3) *In re Ahlert*, 424 F.2d 1088, 1091 (CCPA 1970) (assertions of technical fact in areas of esoteric technology must always be supported by citation to some reference work recognized as standard in the pertinent art and facts officially noticed should not constitute the principal evidence upon which a rejection is based)

Applicants' PCR resin is a product defined by the recycling process by which it is made. A product in a product-by-process claim that is the same or obvious over a product of the prior art does not impart patentability. *Thorpe* at 697, 227 USPQ at 966. At a minimum, Applicants have failed to establish on this record that its PCR resin possesses distinct properties from the resins described in the relied upon prior art. *See also* (1) *In re Best*, 562 F.2d 1252, 1255 (CCPA 1977) ("[w]here, as here, the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product") and (2) *In re Spada*, 911 F.2d 705, 709 (Fed. Cir. 1990) (where claimed composition and prior art composition appear to be the same, PTO may require applicant to prove there is a difference)

Applicants contend that it was surprising that 25% or more PCR resin could be placed in the middle layer of a bottle and not substantially interfere

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with light transmittance. (Br. at 8). The Examiner correctly found that Applicants have not provided sufficient evidence to support this contention.

Based upon the record presented, we find that Applicants' claimed subject matter combines familiar elements of the prior art according to known methods to yield predictable results, the formation of a durable, flexible bottle. Applicants have failed to provide sufficient evidence of secondary considerations to rebut this finding. We conclude that claims 11, 20-21, 23 and 27-28 are unpatentable under 35 U.S.C. § 103(a) over Heydarpour, alone or in combination with D'Alessandro. *Anderson's-Black Rock v. Pavement Co.*, 396 U.S. 57, 61, 163 USPQ 673, 674 (1960) (combination of old elements that added nothing to the nature and quality of the product was obvious).

- iii. The Rejection of Claims 14-16 under 35 U.S.C. § 103(a) as being unpatentable over Heydarpour in view of D'Alessandro
- iv. New Ground Rejection of Claims 14-16 under 35 U.S.C. § 103(a) as being unpatentable over Heydarpour in view of D'Alessandro and further in view of Su and Kirk-Othmer

Independent claim 11 is directed to a bottle having three layers where the outer layer comprises a blend of a metallocene polyethylene polymer and a homopolymer polyethylene each having specific densities. Claims 14 through 16 depend from claim 11 and further require that the outer layer contain a certain percentage of polypropylene. In particular, claim 14 requires 0.1 to 50%, claim 15 requires 0.1 to 25% and claim 16 requires 0.1 to 10% polypropylene by weight of the outer layer. Applicants have not

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argued the separate patentability of any subgroups of the claims as provided by rule so we select claim 14 as representative.⁴

We have affirmed the Examiner's rejection of claims 14-16 for the reasons provided below. In affirming the Examiner's rejections we have become aware of additional prior art references that support the findings of fact made by the Examiner. Accordingly, we enter a new ground of rejection based upon the references cited by the Examiner taken in view of the additional prior art, Su and Kirk-Othmer. The rejections and Applicants' contentions are discussed below.

The Examiner found that Heydarpour does not describe the inclusion of polypropylene in the outer layer of its container. The Examiner however, found that D'Alessandro teaches that polyethylene and polypropylene are interchangeable in the plastic bottle making art. (Answer, p. 5). The Examiner also found that one of ordinary skill in the art would have recognized the advantages of including polypropylene in the forming a bottle.

Applicants contend that D'Alessandro fails to teach the use of a blend of polypropylene and polyethylene in the outer layer of a bottle. (Br. at 10-11). The Examiner has demonstrated that both polyethylene and polypropylene are taught by the prior art as suitable for making flexible bottles. Forming a blend of two known bottle making materials to form a blend of the materials to be used for the very same bottle making purpose is *prima facie* obvious. *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) (it is generally *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the

⁴ 37 C.F.R. § 41.37(c)(1)(vii).

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same purpose, in order to form a third composition which is to be used for the very same purpose.).

Additionally, the blending of polypropylene and polyethylene was known to one of ordinary skill in the packaging art. Specifically, Su teaches that it was typical to make containers from multilayer laminates where the outer layer of the container was formed from a blend of polyethylene and polypropylene. (Su, col. 1, ll. 49-58). Furthermore, Kirk-Othmer demonstrates that one skilled in the chemical arts understood that polypropylene is a versatile polymer and blends of polypropylene exhibit improved toughness, particularly at low temperatures. (Kirk-Othmer, Vol. 19, p. 865).

Applicants contend that a “very specific concentration is claimed, i.e. from about 0.1 to about 50% by weight of the outer layer of polypropylene.” (Br. at 10). Applicants however, have not presented evidence of criticality regarding its claimed amounts, e.g., 0.1 to 50% polypropylene. As it would have been obvious to one of ordinary skill in the art to include polypropylene in the outer layer of a bottle, and as Applicants have not demonstrated any criticality to the amount of polypropylene added, we find that one of ordinary skill in the art could determine the appropriate amounts needed to form a bottle using routine experimentation. *KSR* at 1742, 82 USPQ2d at 1397 (“[a] person of ordinary skill is also a person of ordinary creativity, not an automaton.”).

Su exemplifies blends of polyethylene and polypropylene having 50:50 weight ratio and teaches that a 60:40 weight ratio is likewise suitable for use in forming a plastic container. One of ordinary skill in the art would have been guided by Su and Kirk-Othmer to employ the claimed amounts of

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polypropylene in the outer layer of Heydarpour's container to form a bottle exhibiting improved toughness.

We affirm the Examiner's rejection of claims 14-16 under 35 U.S.C. §103(a) as being unpatentable over Heydarpour in view of D'Alessandro and enter the new grounds of rejection over Heydarpour in view of D'Alessandro and further in view of Su and Kirk-Othmer.

DECISION

ORDERED that the Examiner's rejection of claims 11, 20-21, 23 and 27-28 under 35 U.S.C. § 102(b) as anticipated by Heydarpour is *reversed*.

FURTHER ORDERED that the Examiner's rejection of claims 14-16 under 35 U.S.C. § 103(a) as being unpatentable over Heydarpour in view of D'Alessandro is *affirmed*.

FURTHER ORDERED that the decision contains a new grounds of rejection holding that claims 11, 20-21, 23 and 27-28 are unpatentable under 35 U.S.C. § 103(a) over Heydarpour, alone or in combination with D'Alessandro.

FURTHER ORDERED that the decision contains a new grounds of rejection holding that claims 14-16 are unpatentable under 35 U.S.C. § 103(a) over Heydarpour in view of D'Alessandro and further in view of Su and Kirk-Othmer.

This decision contains new grounds of rejection pursuant to 37 CFR § 41.50(b) (2006). 37 CFR § 41.50(b) provides that "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review."

FURTHER ORDERED that our decision is not a final agency action.

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FURTHER ORDERED that within **two (2) months** from that date of our decision appellant may further prosecute the application on appeal by exercising one of the two following options:

1. Request that prosecution be reopened by submitting an amendment or evidence or both. 37 CFR §41.50(b)(1) (2006).
2. Request rehearing on the record presently before the Board. 37 CFR § 41.50(b)(2) (2006).1

FURTHER ORDERED that the time for taking action under either 37 CFR §§ 41.50(b)(1) or 41.50 (b)(2) is not extendable under the provisions of 37 CFR § 1.136(a) (2006).

AFFIRMED-IN-PART
37 CFR § 41.50(b)

SCHAFER, Administrative Patent Judge, dissenting in part.

I join in my colleagues opinion except for the the reversal of the rejection of 11, 20-21, 23 and 27-28 under 35 U.S.C. § 102(b). The basis for the reversal is that Heydapour does not describe a bottle. Giving the claims their broadest reasonable interpretation, I feel the word “bottle” encompasses Heydapour’s containers. I would affirm the anticipation rejection.

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cc (via U.S. Mail):

UNILEVER INTELLECTUAL PROPERTY GROUP
700 SYLVAN AVENUE
BLDG C2 SOUTH
ENGLEWOOD CLIFFS, NJ 07632-3100